SRI MEENAKSHI GOVT ARTS COLLEGE FOR WOMEN (AUTONOMOUS)

MADURAI – 625 002.

(Re-Accredited with "B++" Grade by NAAC 3rd cycle)

DEPARTMENT OF GEOGRAPHY

SYLLABUS FOR B.Sc GEOGRAPHY

CHOICE BASED CREDIT SYSTEM

2024-2025

LEARNING OUTCOMES-BASED CURRICULUM FRAMEWORK GUIDELINES BASED REGULATIONS FOR UNDER GRADUATE PROGRAMME	
Programme:	**B.Sc. GEOGRAPHY**
Programme Code:	
Duration:	**3 Years (UG)**
Programme Outcomes:	**PO1: Disciplinary knowledge:** Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate Programme of study **PO2: Communication Skills:** Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups. **PO3: Critical thinking:** Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development. **PO4: Problem solving: Capacity** to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations. **PO5: Analytical reasoning**: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints. **PO6: Research-related skills**: A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation **PO7: Cooperation/Team work:** Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team **PO8: Scientific reasoning**: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.

	PO9: Reflective thinking: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society. **PO10 Information/digital literacy:** Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data. **PO 11 Self-directed learning**: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion. **PO 12 Multicultural competence:** Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups. **PO 13: Moral and ethical awareness/reasoning**: Ability toembrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstratingthe ability to identify ethical issues related to one‟s work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work. **PO 14: Leadership readiness/qualities:** Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way. **PO 15: Lifelong learning:** Ability to acquire knowledge and skills, including „learning how to learn‟, that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.
Programme Specific Outcomes:	On successful completion of Bachelor of Physics with Computer Applications programme, the student should be able to: **PSO1: Disciplinary Knowledge:** Understand the fundamental principles, concepts, and theories related to physics and computer science. Also, exhibit proficiency in performing experiments in the laboratory. **PSO2: Critical Thinking:** Analyse complex problems, evaluate information, synthesize information, apply theoretical concepts to practical situations, identify assumptions and biases, make informed decisions and communicate effectively

	PSO3: Problem Solving: Employ theoretical concepts and critical reasoning ability with physical, mathematical and technical skills to solve problems, acquire data, analyze their physical significance and explore new design possibilities. **PSO4: Analytical & Scientific Reasoning:** Apply scientific methods, collect and analyse data, test hypotheses, evaluate evidence, apply statistical techniques and use computational models. **PSO5: Research related skills:** Formulate research questions, conduct literature reviews, design and execute research studies, communicate research findings and collaborate in research projects. **PSO6: Self-directed & Lifelong Learning:** Set learning goals, manage their own learning, reflect on their learning, adapt to new contexts, seek out new knowledge, collaborate with others and to continuously improve their skills and knowledge, through ongoing learning and professional development, and contribute to the growth and development of their field.

PO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
PO1	✔					
PO2		✔				
PO3			✔			
PO4				✔		
PO5					✔	
PO6						✔

2. Highlights of the Revamped Curriculum:

- Student-centric, meeting the demands of industry & society, incorporating industrial components, hands-on training, skill enhancement modules, industrial project, project with viva-voce, exposure to entrepreneurial skills, training for competitive examinations, sustaining the quality of the core components and incorporating application oriented content wherever required.
- The Core subjects include latest developments in the education and scientific front, advanced programming packages allied with the discipline topics, practical training, devising statistical models and algorithms for providing solutions to industry / real life situations. The curriculum also facilitates peer learning with advanced statistical topics in the final semester, catering to the needs of stakeholders with research aptitude.
- The General Studies and Statistics based problem solving skills are included as mandatory components in the 'Training for Competitive Examinations' course at the final semester, a first of its kind.
- The curriculum is designed so as to strengthen the Industry-Academia interface and provide more job opportunities for the students.
- The Statistical Quality Control course is included to expose the students to real life problems and train the students on designing a mathematical model to provide solutions to the industrial problems.
- The Internship during the second year vacation will help the students gain valuable work experience, that connects classroom knowledge to real world experience and to narrow down and focus on the career path.
- Project with viva-voce component in the fifth semester enables the student, application of conceptual knowledge to practical situations. The state of art technologies in conducting a Explain in a scientific and systematic way and arriving at a precise solution is ensured. Such innovative provisions of the industrial training, project and internships will give students an edge over the counterparts in the job market.

- State-of Art techniques from the streams of multi-disciplinary, cross disciplinary and inter disciplinary nature are incorporated as Elective courses, covering conventional topics to the latest DBMS and Computer software for Analytics.

Value additions in the Revamped Curriculum:

Semester	Newly introduced Components	Outcome / Benefits
I	**Foundation Course** To ease the transition of learning from higher secondary to higher education, providing an overview of the pedagogy of learning abstract Statistics and simulating mathematical concepts to real world.	● Instil confidence among students ● Create interest for the subject
I, II, III, IV	**Skill Enhancement papers** (Discipline centric / Generic / Entrepreneurial)	● Industry ready graduates ● Skilled human resource ● Students are equipped with essential skills to make them employable
		● Training on Computing / Computational skills enable the students gain knowledge and exposure on latest computational aspects
		● Data analytical skills will enable students gain internships, apprenticeships, field work involving data collection, compilation, analysis etc.
		● Entrepreneurial skill training will provide an opportunity for independent livelihood ● Generates self – employment ● Create small scale entrepreneurs ● Training to girls leads to women empowerment

		● Discipline centric skill will improve the Technical knowhow of solving real life problems using ICT tools
III, IV, V & VI	Elective papers- An open choice of topics categorized under Generic and Discipline Centric	● Strengthening the domain knowledge ● Introducing the stakeholders to the State-of Art techniques from the streams of multi-disciplinary, cross disciplinary and inter disciplinary nature ● Students are exposed to Latest topics on Computer Science / IT, that require strong statistical background ● Emerging topics in higher education / industry / communication network / health sector etc. are introduced with hands-on-training, facilitates designing of statistical models in the respective sectors
IV	DBMS and Programming skill, Biostatistics, Statistical Quality Control, Official Statistics, Operations Research	● Exposure to industry moulds students into solution providers ● Generates Industry ready graduates ● Employment opportunities enhanced
II year Vacation activity	Internship / Industrial Training	● Practical training at the Industry/ Banking Sector / Private/ Public sector organizations / Educational institutions, enable the students gain professional experience and also become responsible citizens.
V Semester	Project with Viva – voce	● Self-learning is enhanced ● Application of the concept to real situation is conceived resulting in tangible outcome
VI Semester	Introduction of Professional Competency component	● Curriculum design accommodates all category of learners; 'Statistics for Advanced Explain' component will comprise of advanced topics in Statistics and allied fields, for those in the peer group / aspiring researchers; ● 'Training for Competitive Examinations' –caters to the needs of the aspirants towards most sought - after services of the nation viz, UPSC, ISS, CDS,

		NDA, Banking Services, CAT, TNPSC group services, etc.
Extra Credits: For Advanced Learners / Honors degree		● To cater to the needs of peer learners / research aspirants

Skills acquired from the Courses	Knowledge, Problem Solving, Analytical ability, Professional Competency, Professional Communication and Transferrable Skill

Credit Distribution for UG Programmes

Sem I	Credit	H	Sem II	Credit	H	Sem III	Credit	H	Sem IV	Credit	H	Sem V	Credit	H	Sem VI	Credit	H
Part 1. Language – Tamil	3	6	Part..1. Language – Tamil	3	6	Part..1. Language – Tamil	3	6	Part..1. Language – Tamil	3	6	5.1 Core Course –\CC IX	4	5	6.1 Core Course – CC XIII	4	6
Part.2 English	3	6	Part..2 English	3	6	Part..2 English	3	6	Part..2 English	3	6	5.2 Core Course – CC X	4	5	6.2 Core Course – CC XIV	4	6
1.3 Core Course – CC I	5	5	2..3 Core Course – CC III	5	5	3.3 Core Course – CC V	5	5	4.3 Core Course – CC VII Core Industry Module	5	5	5. 3.Core Course CC -XI	4	5	6.3 Core Course – CC XV	4	6
1.4 Core Course – CC II	5	5	2.4 Core Course – CC IV	5	5	3.4 Core Course – CC VI	5	5	4.4 Core Course – CC VIII	5	5	5. 4.Core Course –/ Project with viva- voce CC -XII	4	5	6.4 Elective -VII Generic/ Discipline Specific	3	5
1.5 Elective I Generic/ Discipline Specific	3	4	2.5 Elective II Generic/ Discipline Specific	3	4	3.5 Elective III Generic/ Discipline Specific	3	4	4.5 Elective IV Generic/ Discipline Specific	3	3	5.5 Elective V Generic/ Discipline Specific	3	4	6.5 Elective VIII Generic/ Discipline Specific	3	5
1.6 Skill Enhancement Course SEC-1	2	2	2.6 Skill Enhancement Course SEC-2	2	2	3.6 Skill Enhancement Course SEC-4,	1	1	4.6 Skill Enhancement Course SEC-6	2	2	5.6 Elective VI Generic/ Discipline Specific	3	4	6.6 Extension Activity	1	-

						(Entrepreneurial Skill)										
1.7 Skill Enhancement -(Foundation Course)	2	2	2.7 Skill Enhancement Course –SEC-3	2	2	3.7 Skill Enhancement Course SEC-5	2	2	4.7 Skill Enhancement Course SEC-7	2	2	5.7 Value Education	2	2	6.7 Professional Competency Skill	2	2
						3.8 E.V.S.	-	1	4.8 E.V.S	2	1	5.8 Summer Internship /Industrial Training	2				
	23	**30**		**23**	**30**		**22**	**30**		**25**	**30**		**26**	**30**		**21**	**30**
Total – 140 Credits																	

Choice Based Credit System (CBCS), Learning Outcomes Based Curriculum Framework (LOCF) Guideline Based Credit and Hours Distribution System for all UG courses including Lab Hours

First Year – Semester-I

Part	List of Courses	Credit	No. of Hours
Part-1	Language – Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses [in Total]	13	14
Part-4	Skill Enhancement Course SEC-1	2	2
	Foundation Course	2	2
		23	**30**

First Year - Semester-II

Part	List of Courses	Credit	No. of Hours
Part-1	Language – Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses including laboratory [in Total]	13	14
Part-4	Skill Enhancement Course -SEC-2	2	2
	Skill Enhancement Course -SEC-3 (Discipline / Subject Specific)	2	2
		23	**30**

Second Year – Semester-III

Part	List of Courses	Credit	No. of Hours
Part-1	Language - Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses including laboratory [in Total]	13	14
Part-4	Skill Enhancement Course -SEC-4 (Entrepreneurial Based)	1	1
	Skill Enhancement Course -SEC-5 (Discipline / Subject Specific)	2	2
	E.V.S	-	1
		22	**30**

Second Year - Semester-IV

Part	List of Courses	Credit	No. of Hours
Part-1	Language - Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses including laboratory [in Total]	13	13
Part-4	Skill Enhancement Course -SEC-6 (Discipline / Subject Specific)	2	2
	Skill Enhancement Course -SEC-7 (Discipline / Subject Specific)	2	2
	E.V.S	2	1
		25	**30**

Third Year - Semester-V

Part	List of Courses	Credit	No. of Hours
Part-3	Core Courses including Project / Elective Based	22	26
Part-4	Value Education	2	2
	Internship / Industrial Visit / Field Visit	2	2
		26	**30**

Third Year - Semester-VI

Part	List of Courses	Credit	No. of Hours
Part-3	Core Courses including Project / Elective Based & LAB	18	28
Part-4	Extension Activity	1	-
	Professional Competency Skill	2	2
		21	**30**

Consolidated Semester wise and Component wise Credit distribution

Parts	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Total Credits
Part I	3	3	3	3	-	-	12
Part II	3	3	3	3	-	-	12
Part III	13	13	13	13	22	18	92
Part IV	4	4	3	6	4	1	22
Part V	-	-	-	-	-	2	2
Total	23	23	22	25	26	21	**140**

***Part I. II, and Part III components will be separately taken into account for CGPA calculation and classification for the under graduate programme and the other components. IV, V have to be completed during the duration of the programme as per the norms, to be eligible for obtaining the UG degree.**

Methods of Evaluation		
Internal Evaluation	Continuous Internal Assessment Test	25 Marks
	Assignments	
	Seminars	
	Attendance and Class Participation	
External Evaluation	End Semester Examination	75 Marks
	Total	100 Marks
Methods of Assessment		
Recall (K1)	Simple definitions, MCQ, Recall steps, Concept definitions	
Understand/ Comprehend	MCQ, True/False, Short essays, Concept explanations, Short summary or overview	

(K2)	
Application (K3)	Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain
Analyze (K4)	Problem-solving questions, Finish a procedure in many steps, Differentiate
	between various ideas, Map knowledge
Evaluate (K5)	Longer essay/ Evaluation essay, Critique or justify with pros and cons
Create (K6)	Check knowledge in specific or offbeat situations, Discussion, Debating or Presentations

First Year- Semester-I

Part	CODE	List of Courses	Credit	Hours
Part-1	U231A1 / U231H1	Language -Tamil	*3*	*6*
Part-2	U232A1	English	*3*	*6*
Part-3	U23CG1	Core Course – CC I (T) **Fundamentals of Geomorphology**	5	5
	U23CG2P	Core Course – CC II (P) **Map Making and Representation of Relief**	3	3
	U23GB55	Allied Botany- **Introduction of Eco Biology**	4	4
	U23GB56P	**Environmental Biology(practical)**		2
Part-4	U23SEG1	Skill Enhancement Course - SEC/ NM - I **Mapping Techniques**	2	2
	U23FG1	Foundation course - **Earth and its Systems**	2	2
			22	**30**

First Year- Semester-II

Part	CODE	List of Courses	Credit	H
Part-1	U231A2 / U231H2	Language -Tamil	*3*	*6*
Part-2	U232A2	English	*3*	*6*
Part-3	U23CG3	Core Course – CC III (T) **Climatology**	5	5

	U23CG4P	Core Course – CC IV (P) **Climatic Data and Weather Map Interpretation**	3	3
	U23GB57	Allied Botany-**Basic Forest Botany**	4	4
	U23GB56P	Allied Botany Practical-**Environmental Biology**	2	2
Part-4	U23SEG2	Skill Enhancement Course -SEC-2 **Social and Cultural Geography**	2	2
	U23SEG3	Skill Enhancement Course –SEC-3 -/ NM-**Geography of Tourism**	2	2
			24	**30**

Second Year- Semester-III

Part	CODE	List of Courses	Credit	H
Part-1	U231A3 / U231H3	Language -Tamil	***3***	***6***
Part-2	U232A3	English	***3***	***6***
Part-3	U23CG5	Core Course – CC V (T) - **Cartography**	4	5
	U23CG6P	Core Course – CC VI (P) – **STATISTICAL MAPS AND DIAGRAMS**	3	3
	U23GE13	**Allied Economics- General Economics**	4	4
	U23GG31P	Elective Generic/ Discipline Specific Elective-III - GEC- (Allied Practical)- **Statistical Application for Geography** (Sem- III &IV)	-	2
Part-4	U23SEG4	Skill Enhancement Course-SEC-4 (Entrepreneurial Skill) – **Preparation of Chart for Rural and Urban Activities**	1	1
	U23SEG5	Skill Enhancement Course SEC-5 - **Geography of Health**	2	2

		E.V.S	**-**	**1**
			20	**30**

Part	CODE	List of Courses	Credit	H
Part-1	U231A4 / U231H4	Language –Tamil	3	6
Part-2	U232A4	English	3	6
Part-3	U23CG7	Core Course – CC VII (T) **Economic Geography**	4	4
	U23CG8P	Core Course – CC VIII (P) **Computer Assisted Diagrams**	3	3
	U23GE14	Allied Economics –**Banking Theory Practice And Insurance**	4	4
	U23GG31	Elective Generic/ Discipline Specific Elective-IV – GEC- Allied Practical - **Statistical Application for Geography** (Sem- III &IV)	2	2
	U23SEG6	Skill Enhancement CourseSEC-6- **Basics of Geographical Information System**	2	2
	U23SEG7	Skill Enhancement Course SEC-7 **Bio-Geography**	2	2
		E.V.S	2	1
			25	**30**

Third Year - Semester-V

Part	CODE	List of Courses	Credit	H
Part-3	U23CG9	Core Course – CC IX (T) **Oceanography**	5	5
	U23CG10	Core Course – CC X **World Regional Geography**	5	5
	U23CG11P	Core Course CC –XI **Map Making and Map Interpretation**	3	6

	U23CG12	Core Course – CC XII **Geography of Tamilnadu**	4	4
	U23DG01 / U23DG02	Elective Generic/ Discipline Specific Elective(1) **Human Geography/ Water Resource Management**	3	4
	U23DG03 / U23DG04	Elective Generic/ Discipline Specific Elective(2) **Research Methodology/ Political Geography**	3	4
Part-4	U23VE1	Value Education	2	2
	U23S1G1	Summer Internship /Industrial Training Industrial Training and Internship	2	
			27	**30**

Third Year- Semester-VI

Part	CODE	List of Courses	Credit	No. of Hours

Part-3	U23CG13	Core Course – CC XIII **Geography of India**	5	6
	U23CG14	Core Course – CC XIV **Population and Settlement**	5	6
	U23CG15P	Core Course – CC XV (P) **Projection and Surveying**	3	6
	U23DG05 U23DG06	Elective Generic/ Discipline Specific Elective –III **Remote sensing and GNSS** **Geo Spatial Techniques**	3	5
	U23DG07 U23DG08	Elective Generic/ Discipline Specific Elective –IV **Transport Geography** **Regional planning and development**	3	5
Part-4		Extension Activity	1	-
	U23PCG1	Professional Competency Skill	2	2
		Disaster Management		
			22	30

Credit Distribution for all UG other than B.Com, BBA and BCA

S.No	Part	Course Details	Credit
1	**III**	Core(15x4)	60
2		Elective Generic/ Discipline Specific Elective(8x3=24)	24
3	I& II	Language & English (Lang-4x3=6 Eng-4x3=6)	24
4	IV	NME(2x2)	4
5		EVS(1x2)	2
6		Value Education(1x2)	2
7		Extension Activity(1x1)	1
8		● Ability Enhancement [AECC]- Soft Skill(4x2=8) ● **Skill Enhancement Course [7 Courses]** ● Professional Competency Skill	8 13 2

		Total Credits	**140**

Remarks: English Soft Skill Two Hours Will be handled by English Teachers (4+2 = 6 hours for English).

SEMESTER- I

Programme : B.Sc Geography	Part III: CORE PAPER
Semester : I	Hours : 5Hrs /W (75Hrs P/S)
Sub. Code : **U23CG1**	Credits: 5

TITLE OF THE PAPER: **Fundamentals of Geomorphology**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented	-	Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented	✔	Addresses Environment and Sustainability	✔

Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To understand scope and content of Geomorphology; and explains the Rocks and types of rocks. To Explains the continental drift theory, classify Endogenic and Exogenic forces. Discuss the fold, fault and volcano types. To illustrate the factors affecting weathering and its types. To compare and classify Glacier and its types and types of landforms. To explain the work of wind waves.

UNIT	COURSE DETAILS
I	**Geomorphology** – Meaning – Scope and Content (Structure of the earth) – Rocks-Rocks types (Igneous Rock, Metamorphic Rock, and Sedimentary Rock)
II	**Wegner's continental drift theory** – Plate tectonics- Earth movements (Endogenic and Exogenic) - Fold and its types – Fault and its types - Earthquake and its types - Types of Volcanoes.
III	**Weathering**: Factors affecting Weathering-Types of Weathering Mass Wasting and its types. **Agents of Gradation** –Work of Rivers- Erosion –Transportation- Deposition –Erosional Landforms -Depositional Landforms.
IV	**Work of Glaciers** – Glacial Landforms- Erosional Landforms Underground Water- Erosional, Depositional Karst Landforms – Erosional Landforms and Depositional Landforms.
V	**Work of Wind** - Erosional Landforms and Depositional Landforms. Work of Waves- Erosional landforms- Depositional Landforms of Coasts.
TEXT BOOK:	
1	Savindra Singh (2012) :Physical Geography
2	Siddhartha.K&Mukherjee.R (2008): The Earth's Dynamic Surface
3	Majid Hussain (2004): Fundamentals of Physical Geography
4	Richard .H.Bryant (2006): Physical Geography made Simple

5	Dayal P.A. (2001):Text Book of Geomorphology
WEB SOURCE:	
1	En.wikipedia.org/wiki/Geomorphology
2	En.wikipedia.org/wiki/volcano
3	http://www.geographynotes.com/articles/applied-geomorphology-meaning-two-main-lines-specific-applications-and-techniques/779
4	En.wikipedia.org/wiki/Geomorphology

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand scope and content of Geomorphology; and explains the Rocks and types of rocks
	CO2	To Explains the Continental Drift Theory, classify Endogenic and Exogenic forces. Discuss the Fold, Fault and Volcano types.
	CO3	To illustrate the factors affecting weathering and its types
	CO4	To compare and classify Glacier and its types and types of landforms
	CO5	To explain the work of wind waves

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	L	L	M	M	L		L	L	L
CO1	S	L	L	M	M	L		L	L	L
CO2	S	M	L		L	L	M	L	L	L
CO3	S	M	M	M	M	L	M	L	L	L
CO4	S	M	M		L	L		L	L	L
CO5	S	M	M	M	M	L	M	L	L	L

Programme :B.Sc Geography
Part III: PRACTICAL-I

Semester :I
Hours : 3Hrs /W (60 Hrs P/S)

Sub. Code : **U23CG2P**
Credits:3

TITLE OF THE PAPER: **MAP MAKING AND REPRESENTATION OF RELIEF**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to	✔	Entrepreneurship	✔	Addresses Gender	

National need		Oriented		Sensitization	
Relevant to Regional need	✔	Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need	✔		-	Addresses Human Values	

LEARNING OBJECTIVES	To understand the components of Maps and Scale Measurements. To illustrate and examine the Representation of the direction on Maps. To Measure the distance on maps by using different methods. To enhance techniques applied in the Enlargement and reduction of maps. To introduce the mapping techniques applied to interpret contours.

UNIT	COURSE DETAILS
I	**Determination of Map Scale** : Statement representation fraction – types of scale – graphical scale – comparative scale – diagonal scale
II	**Representation of Direction on Maps**: Directions – True North – Magnetic North - Bearings – True bearing and Magnetic bearings
III	**Measurement of Distance:** Thread – Divider- Opisometre- Measurement of Area – Graphical and Strip Method
IV	**Enlargement and Reduction of Maps**: – combination of maps- representation relief of maps
V	**Conventional signs of Relief Features** : Spot Height- Bench Mark- Triangulation Station - Layer Shading- Hachuring – Hill Shading and Contour – Contour Section Drawing , Types of slopes (Uniform, Concave, and Convex) - Hill- plateau- Ridge- Escarpment- V Shaped Valley- Waterfall and Sand Dunes.
TEXT BOOK:	
1	Savindra Singh (2012) :Physical Geography
2	Siddhartha.K&Mukherjee.R (2008): The Earth's Dynamic Surface
3	Majid Hussain (2004): Fundamentals of Physical Geography

4	Richard .H.Bryant (2006): Physical Geography made Simple
5	Dayal P.A. (2001):Text Book of Geomorphology
WEB SOURCE:	
1	http://www.worldatlas.com/aatlas/imageg.
2	http://en.wikipedia.org/wiki/mapscale.
3	http://en.wikipedia.org/wiki/internationaldateline
4	http://en.wikipedia.org/wiki/mapscale.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the components of Maps and Scale Measurements
	CO2	To illustrate and examine the Representation of the direction on Maps
	CO3	To Measure the distance on maps by using different methods
	CO4	To enhance techniques applied in the Enlargement and reduction of maps
	CO5	To introduce the mapping techniques applied to interpret contours

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	L	L	L			L	L	L	L
CO1	S	L	L	L			L	L	L	L
CO2	S	L	L	M	M	L	L	L	L	L
CO3	S	M	M	L	M	L	L	L	L	L
CO4	S	M	M	L	M	L	L	L	L	L
CO5	S	M	M	L	M	L	L	L	L	L

Programme : B.Sc Geography — Part III: Skill Enhancement Course

Semester : I — Hours : 2Hrs /W (60Hrs P/S)

Sub. Code :**U23SEG1** — Credits: 2

TITLE OF THE PAPER: **MAPPING TECHNIQUES**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to	✔	Entrepreneurship	✔	Addresses Gender	

National need		Oriented		Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	To understand the components of Maps and Scale Measurements. To illustrate and examine the Representation of the directionon Maps. To understand Latitude and Longitude and calculate International dateline. To elaborate on the need for conventional signs and symbols in Maps. To enhance techniques applied in the Representation of relief on maps.

UNIT	COURSE DETAILS
I	**Map Components** - Maps- Types of Maps- Scales – Representative fraction and Statement of the scale- Types of scales – Plain scales– comparative scale- Diagonal scale.
II	**Representation of Direction on Maps**: Directions-True north, Grid, Magnetic north –Bearings – True bearing and magnetic bearing.
III	**Latitude and Longitude** – International dateline – International Time Calculation
IV	**Conventional Signs and Symbols** - Measurement of distance (Thread - Divider - Opisometer) and Measurement of area (Graphical and strip method)-Enlargement and Reduction of maps -Combination of Maps.
V	**Representation of Relief on Maps**: Spot heights, bench mark, triangulation station -layer shading- Hachuring, hill shading and Contours- Interpolation of contours.
TEXT BOOK:	
1	Saha, Pijushkanti (2010): Advanced Practical Geography. Books and Allied pvt Ltd.

2	Bagulia A.M (2006): Practical Geography, Anmol Pyblishers.
3	Khan , M.D .Zulfequar Ahmed (1997) : Text book of Practical Geography. Concept Publishing Company , New Delhi.
WEB SOURCE:	
1	http://www.worldatlas.com/aatlas/imageg.
2	http://en.wikipedia.org/wiki/mapscale.
3	http://en.wikipedia.org/wiki/internationaldateline
4	http://en.wikipedia.org/wiki/mapscale.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the components of Maps and Scale Measurements
	CO2	To illustrate and examine the Representation of the directionon Maps
	CO3	To understand Latitude and Longitude and calculate International dateline
	CO4	To elaborate on the need for conventional signs and symbols in Maps.
	CO5	To enhance techniques applied in the Representation of relief on maps

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10
CO1	**S**	**L**	**L**	**L**			**L**	**L**	**L**	**L**
CO1	**S**	**L**	**L**	**L**			**L**	**L**	**L**	**L**
CO2	**S**	**L**	**L**	**M**	**M**	**L**	**L**	**L**	**L**	**L**
CO3	**S**	**M**	**M**	**L**	**M**	**L**	**L**	**L**	**L**	**L**
CO4	**S**	**M**	**M**	**L**	**M**	**L**	**L**	**L**	**L**	**L**
CO5	**S**	**L**	**L**	**L**			**L**	**L**	**L**	**L**

Programme : B.Sc Geography
Part III: Foundation course

Semester : I
Hours : 2Hrs /W (60 Hrs P/S)

Sub. Code : **U23FG1**
Credits: 2

TITLE OF THE PAPER: **EARTH AND ITS SYSTEMS**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	To understand the basic concept of Universe and its origin and the theories of Evolution : Nebula, Kant and Big Bang Theory. To understand Earth and Universe- Solar systems , Milky way Galaxy and Black hole theory and Meteorites. To explain the Earth Internal Structure the Core, Mantle, Crust. To illustrate about the Earth's Size, Rotation and Revolution, causes for Seasons, Eclipses and Solstice. To explain the latitude and longitude, Cardinal points, Greenwich Meridian and Indian Standard Time.

UNIT	COURSE DETAILS
I	**The Universe and its Origin**- Theories of Evolution: Nebula, Kant, and Big Bang Theory
II	**Earth and Universe** - Solar system- Galaxy (Milky way) – Cosmobody - Black hole – Meteorite.
III	**Earth's internal structure** – Earth's crust, mantle, and core – Discontinuity- Isostasy.
IV	**Earth and its Size** -Earth Rotation and Revolution – Inclination Causes – (Day and Night, Seasons) – Summer and Winter Solstice – Eclipses.
V	**Latitudes and Longitudes** – Cardinal Points - Greenwich Meridian – Indian Standard time
TEXT BOOK:	
1	Savindra Singh (2012) :Physical Geography

2	Siddhartha.K&Mukherjee.R (2008): The Earth's Dynamic Surface
3	Majid Hussain (2004): Fundamentals of Physical Geography
4	Richard .H.Bryant (2006): Physical geography made Simple
5	Dayal P.A. (2001):Text book of Geomorphology
WEB SOURCE:	
1	En.wikipedia.org/wiki/Geomorphology
2	En.wikipedia.org/wiki/volcano
3	http://www.geographynotes.com/articles/applied-geomorphology-meaning-two-main-lines-specific-applications-and-techniques/779
4	En.wikipedia.org/wiki/Geomorphology

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the basic concept of Universe and its origin and the theories of Evolution : Nebula, Kant and Big Bang Theory
	CO2	To understand Earth and Universe- Solar systems , Milky way Galaxy and Black hole theory and Meteorites
	CO3	To explain the Earth Internal Structure the Core, Mantle, Crust
	CO4	To illustrate about the Earth's Size, Rotation and Revolution, causes for Seasons, Eclipses and Solstice

	CO5	To explain the latitude and longitude, Cardinal points, Greenwich Meridian and Indian Standard Time.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	L	M	L			M	L	L	L
CO1	S	L	M	L	L		L	L	L	L
CO2	S	M	M	L	L	L	L	L		L
CO3	S	M	L	L	L	L	L		L	L
CO4	S	M	L	M	L	L	L	L	L	
CO5	S	L	M	L			M	L	L	L

SEMESTER- II

Programme : B.Sc Geography
Semester : II

Part III: CORE PAPER
Hours : 5Hrs /W (75Hrs P/S)

Sub. Code : **U23CG31** Credits: 5

TITLE OF THE PAPER: **CLIMATOLOGY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	
LEARNING OBJECTIVES	To understand the basic concepts and scope of climate and differentiate the weather and climate and assess the composition of atmosphere. To understand the Insolation and Temperature, Factors and Distribution, Heat Budget, Temperature Inversion. To classify the Atmospheric Pressure and Winds. To illustrate the types of air masses and fronts. To elaborate the Atmospheric Moisture and climatic regions . Assessment Unit.				

UNIT	COURSE DETAILS
I	Scope and Content – Weather and Climate – Climatic Elements- Atmospheric Composition and Structure
II	Insolation and Temperature: Factors and Distribution, Heat Budget, Temperature Inversion.
III	Atmospheric Pressure and Winds: Planetary Winds, Forces affecting Winds, General Circulation of Air, Jet Streams. Monsoon - Origin and Mechanism, El Nino – LA Nina.
IV	Air Masses- Classification of Air Masses- Fronts- Classification of Fronts
V	Atmospheric Moisture: Evaporation, Humidity, Condensation, Fog and Clouds, Precipitation Types- Atmospheric disturbance - Koppen's classification of Climate.

TEXT BOOK:
Lal D.S (2006): Climatology, Chaitanya Publishing House, New Delhi.
Roger. G. Barry & Richard J. Choley, (2002): Atmosphere, Weather and Climate, Seventh Edition, Methunen& co Ltd, New York.
Gochenleong (2001): Certificate Physical and Human Geography, Oxford university press, New Delhi.
Siddhartha. K , (2000): Atmosphere, Weather and Climate, Kisalaya publications Pvt Ltd Delhi.
WEB SOURCE:
en-wikipedia.org/win/physical-geography
www.physical geography.net/about.html
www.4shared.net/physical+geography.
books.google.com>science>earth sciences>geography

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the basic concepts and scope of climate and differentiate the weather and climate and assess the composition of atmosphere.
	CO2	To understand the Insolation and Temperature, Factors and Distribution, Heat Budget, Temperature Inversion.
	CO3	To classify the Atmospheric Pressure and Winds
	CO4	To illustrate the types of air masses and fronts

	CO5	To elaborate the Atmospheric Moisture and climatic regions

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	L	L	L	L	L	M	L	L	L
CO1	S	L	L	L	L	L	M	L	L	L
CO2	S	L	M	L	M	L	L	L	L	L
CO3	S	M	L	L	M	L	L	L	L	L
CO4	S	M	L	M	M	L	L	L	L	L
CO5	S	L	L	L	L	L	M	L	L	L

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Programme :B.Sc Geography Part III: CORE PAPER PRACTICAL –II

Semester :II
Sub. Code : **U23CG4P**

Hours : 3Hrs /W (60 Hrs P/S)
Credits:3

TITLE OF THE PAPER: **CLIMATIC DATA AND WEATHER MAP INTERPRETATION**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	To understand the representation of Climatic Data .To illustrate the Symbols used to interpret the Weather maps. To understand Weather Maps and Instruments- Weather Elements on map Meteorological signs and symbols- Weather Station model- Salient features of Indian Seasons. To Study Procedures of interpretating Indian Daily Weather maps. To interpret the Indian daily weather map.

UNIT	COURSE DETAILS
I	Climatic Data: Climatic graph and Climograph.
II	Hyther Graph, Rainfall dispersion diagram Water budget graph, Ergo Graph and Wind Rose: Simple and Octagonal wind rose.
III	Weather Maps and Instruments- Weather Elements on map- Meteorological signs and symbols- Weather Station model- Salient features of Indian Seasons.
IV	Study of Indian Daily Weather maps: Information - Procedures of interpretation

V	Interpretation of Indian daily weather Report.

TEXT BOOK:
Lal D.S (2006): Climatology, Chaitanya Publishing House, New Delhi.
Roger. G. Barry & Richard J. Choley, (2002): Atmosphere, Weather and Climate, Seventh Edition, Methunen& co Ltd, New York.
Gochenleong (2001): Certificate Physical and Human Geography, Oxford university press, New Delhi.
Siddhartha. K , (2000): Atmosphere, Weather and Climate, Kisalaya publications Pvt Ltd Delhi.
WEB SOURCE:
en-wikipedia.org/win/physical-geography
www.physical geography.net/about.html
www.4shared.net/physical+geography.
books.google.com>science>earth sciences>geography

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the representation of Climatic Data
	CO2	To illustrate the Symbols used to interpret the Weather maps

	CO3	To understand Weather Maps and Instruments- Weather Elements on map Meteorological signs and symbols- Weather Station model- Salient features of Indian Seasons.
	CO4	To Study Procedures of interpretating Indian Daily Weather maps
	CO5	To interpret the Indian daily weather map

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	L	L	L	L	L	M	L	L	L
CO1	S	L	L	L	L	L	M	L	L	L
CO2	S	L	M	L	M	L	L	L	L	L
CO3	S	M	L	L	M	L	L	L	L	L
CO4	S	M	L	M	M	L	L	L	L	L
CO5	S	L	L	L	L	L	M	L	L	L

SEMESTER- II

Programme : B.Sc Geography Part III: Skill Enhancement paper

Semester : II Hours : 2Hrs /W (30 Hrs P/S)
Sub. Code : **U23SEG2** Credits: 2

TITLE OF THE PAPER: **SOCIAL AND CULTURAL GEOGRAPHY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	
LEARNING OBJECTIVES	To acquire basic knowledge on the social structure and society.To elaborate the spatial distribution of Ethnicity. To discuss the social welfare and well being. To distinguish on the races and cultural diffusion of the world. To assess the Human development indicators and its Index.				

UNIT	COURSE DETAILS
I	Introduction: Nature and Scope of Social Geography- Concepts of Social Geography- Social Structure (Family, Marriage and Processes)
II	Spatial distribution of Ethnicity , Tribe,
III	Welfare and Social wellbeing : Quality of life – Health – Education- Economic status- Gender- Wellbeing of women

IV	Cultural Geography: Concept of Culture, Evolution of Human being – Culture interaction and Diffusion – Culture Exchange
V	Measurement of Human Development – Social, Economic and Environmental indicators.

TEXT BOOK:
Jon Anderson, Taylor & Francis. (2021) Understanding Cultural Geography Places and Traces
S.D.Maurya (2016) Cultural Geography, Sharda pustak bhavan, Allahabad
G.S. Mohanty (2007) Social and Cultural Geography
Ajjazuddin Ahmad (2004) Social Geography, Rawat Publications, Jaipur
WEB SOURCE:
https://en.wikipedia.org/wiki/Cultural_geography
https://en.wikipedia.org/wiki/Race_(human_categorization)
https://en.wikipedia.org/wiki/Clothing_in_the_ancient_world
https://books.google.co.in/books?isbn=8180690741

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To acquire basic knowledge on the social structure and society

	CO2	To elaborate the spatial distribution of Ethnicity
	CO3	To discuss the social welfare and well being
	CO4	To distinguish on the races and cultural diffusion of the world
	CO5	To assess the Human development indicators and its Index

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M		M			S	L	M	M
CO1	S	L	M	M	M	M	L	L	L	L
CO2	S	M	M	M	M	M	S	M	L	M
CO3	S	M	M	M	M	M	M	M	L	M
CO4	S	M	M	S	S	M	S	M	L	M
CO5	S	M	M	M			S	L	M	M

SEMESTER- II

Programme : B.Sc Geography
Part III: Skill Enhancement

Semester : II
Hours : 2Hrs /W (60 Hrs P/S)

Sub. Code : **U23SEG3**
Credits: 2

TITLE OF THE PAPER: **GEOGRAPHY OF TOURISM**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	-
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need	-			Addresses Human Values	

LEARNING OBJECTIVES	To elaborate the Concept of Leisure and Tourism. To discuss the Determinants and Motivation of Tourism. To elaborate on Elements of Tourism. To Classify Tourist spots. To illustrate the Role of Transport in Tourism Development To discuss the importance of Tourist Organization of Tamil Nadu.

UNIT	COURSE DETAILS
I	Concept of Leisure and Tourism – Principles and Purpose – Types of Tourism–Significance of Tourism -Tourism development in Tamil Nadu.
II	Recent trends in tourism - Motivation of Tourism

III	Elements of Tourism – Attraction, Accessibility and Amenities –
IV	Classification of Tourist spots - Accommodation – Primary and Supplementary Accommodation– Hotels, Inns and Motels.
V	Role of Transport in Tourism Development – Travel Formalities – Tour Itinerary– Travel Agency – Passport, Visa.Tamil Nadu Tourism Corporation.- Tourist Spots in Tamil Nadu - Field Trip.
TEXT BOOK:	
A.K.Bhatia(2015), Sterling Publishers (P) Ltd. Sterling Publishers, New Delhi.	
Girish, Revathy(2010): Tourism Product II, Wisdom Press, Daryagang, New Delhi	
R.E.Sinha 1996 'Tourism Strategies, Planning and Development', Common Wealth Publishers.	
WEB SOURCE:	
https://en.wikipedia.org/wiki/Hospitality_management_studies	
study.com/directory/category/Business/Hospitality_Management.html	
http://www.wisegeek.org/	

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To acquire basic knowledge on the social structure and society
	CO2	To elaborate the spatial distribution of Ethnicity
	CO3	To discuss the social welfare and well being

	CO4	To distinguish on the races and cultural diffusion of the world
	CO5	To assess the Human development indicators and itsIndex

MAPPING WITH PROGRAM OUT COMES:

Map course out comes (CO) for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	L	L	L			L	L	L	L
CO1	S	L	L	L	M	L	L	L	L	L
CO2	S	L	L	L	M	L	L	L	L	L
CO3	S	M	M	L	L		L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	L	L	L			L	L	L	L

SEMESTER -III

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :III | Hours : 5Hrs /W (75Hrs P/S)

Sub. Code : **U23CG5** | Credits: 4

TITLE OF THE PAPER: **CARTOGRAPHY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	To understand the development and history of Cartography, with the types of maps. To illustrate and examine the components of Maps. To elaborate on the representation of mapping techniques. To enrich the development of remote sensing in the cartography. To summarize the recent technologies in digital Cartography.

UNITS	COURSE DETAILS
I	**Definition** - History and Development of Cartography - Maps - Types of Maps based on Scale Purpose, Relief and Thematic Maps Qualitative and Quantitative uses of Maps in Geography.

II	**Components of Maps** - Scale - Direction - Projection- Lettering, Symbolization.
III	**Techniques of Map Representation** - Isopleth - Interpolation of Contours - Mapping of Socio-Economic Data - Dot Maps - Circle - Sphere- Square - Choropleth - Choro schematic - Choro Chromatic Maps.
IV	**Development of Remote Sensing** - Aerial Photography, Aerial Photo Interpretation - Satellite Imageries and Interpretation.
V	**Recent Technologies in Cartography** - CAD- GIS- ARC GIS- QGIS - GPS
TEXT BOOKS	1. Judith A.Tyner (2010):Principles of Map Design, The Guilford press, New York , London. 2. Misra,P. and A. Ramesh.(2006).*Fundamentals of Cartography.* McMillan Co. Publishing, New Delhi. 3. Misra, R.P. and Ramesh A. (2002) :Fundamentals of Cartography, concept publishing company. 4. Robinson, H. (1995). *Elements of Cartography.* (6th Edition). John Wiley and Sons, New York. 5. Tyner,Judith.(1992).*Introduction to thematic Cartography.* Prentice Hall, New Jersey. 6. Border, D. (1990).*Cartography : Thematic map design.* WCB WMC Brocan Pub
WEB RESOURCES	1. http://en.wikipedia.org/wiki/carography 2. http://www.geography.wisc.edu/histcart 3. http://www.map-symbol.com/sym_lib.htm.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the development and history of Cartography, with the types of maps.
	CO2	To illustrate and examine the components of Maps.
	CO3	To elaborate on the representation of mapping techniques.
	CO4	To enrich the development of remote sensing in the cartography.
	CO5	To summarize the recent technologies in digital Cartography.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	**S**	**L**					**L**	**L**	**L**	**L**
CO2	**S**	**L**	**L**	**L**			**L**	**L**	**L**	**L**
CO3	**S**	**L**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO4	**S**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO5	**S**	**M**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**

Programme :B.Sc Geography | Part III: CORE PAPER - PRACTICAL

Semester :III | Hours : 5Hrs /W (75Hrs P/S)

Sub. Code : **U23CG6P** | Credits: 3

TITLE OF THE PAPER: **STATISTICAL MAPS AND DIAGRAMES**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	To understand the development and history of Cartography, with the types of maps. To illustrate and examine the components of Maps. To elaborate on the representation of mapping techniques. To enrich the development of remote sensing in the cartography. To summarize the recent technologies in digital Cartography.

UNITS	COURSE DETAILS
I	Graphs- Line graph – Multiple graph – Band graph.

II	One dimensional - Bar Diagram : Simple Bar – vertical Bar – Horizontal Bar and Compound Bar – Compared Bar – Multiple Bar- Pyramidal Bar.
III	Two dimensional diagram – squire – circle and pie diagram
IV	Three dimensional diagram – cube – spherical diagram.
V	Locational diagram maps: Line – Bar – Circle and Pie diagram maps
TEXT BOOKS	1. Ahmad khan. M.Z- Text Book of practical Geography – Concept Publishing company ,New Delhi – 1988. 2. Ishtiaq M. – A text Book of practical Geography – Heritage Publishers - New Delhi - 2001. 3. Jayachandran.S – Practical geography – Tamilnadu Book Society, Chennai, 1963 (Tamil copy). 4. Misra R.P. and Ramesh. A – Fundamentals of Cartography – Concept Publishing company – New Delhi – 2002. 5. Monkhouse F.J. & Wilkinson H.R - Maps and Diagrams- Methuen, London - 1994. 6. Dr. Pijushkanti Saha & Dr. ParthBasu - Advanced Practical Geography – A Laboratory Manual - Books&Allied Pvt.Ltd,Kolkatta - 2004. 7. Singh and Kanunja - Map work and Practical Geography –Central Book Depot –Allahabad – 1979. 8. Singh R.L - Elements of Practical Geography – Kalyani PublisheNew Delhi - 1979.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the development of Cartography, with the types of graphs.
	CO2	To illustrate and examine the components of Diagrams.
	CO3	To elaborate on the representation of mapping techniques.
	CO4	To enrich the development of diagrams in the cartography.
	CO5	The recent techniques in locational diagrams.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	**S**	**L**					**L**	**L**	**L**	**L**
CO2	**S**	**L**	**L**	**L**			**L**	**L**	**L**	**L**
CO3	**S**	**L**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO4	**S**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO5	**S**	**M**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**

Programme :B.Sc Geography Part III: GENIRIC ELECTIVE PRACTICAL

Semester :III &IV Hours : 4Hrs /W (75Hrs P/S)

Sub. Code : **U23GG31P** Credits: 4

TITLE OF THE PAPER: **STATISTICAL APPLICATIONS FOR GEOGRAPHY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	To acquire the basic knowledge of data collection. To understand the need of basic statistical methods. To get the knowledge diagrammatic representation of statistical methods. To explore the basic knowledge of Time series and moving average. To acquire the knowledge of statistical analysis.

UNITS	COURSE DETAILS
I	Collection of data and formation of statistical tables- Importance of cross tabulation.

II	Measures of Central Tendency: Mean- Median- Mode- Measures of Dispersion: Range
III	Mean Deviation-Standard Deviation-Rank Correlation-Coefficient of Variation.
IV	Diagrammatic Representation of Data- Bar, Histogram
V	Frequency Polygon and Curve - Ogives- Lorenz Curve- Gini Coefficient - Time Series – Graphical Method – Semi Average
TEXT BOOKS	1. SahaPijushkanti (2010): Advanced Practical Geography, Books and Allied pvt Ltd. 2. Bagulia A.M (2006): Practical Geography, Anmol Publishers. 3. Zulfequar Ahmed Khan M.D (1997): Text book of Practical Geography, Concept Publishing Company , New Delhi.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	**Understands** the Purposes of data collection and its sources.
	CO2	Sampling is very essential to choose according to the types of data types and the purpose of the study
	CO3	**Understands** of facts of hypothesis testing and need of hypotheses in research analysis.

	CO4	Explore the types of hypothesis and its significance and confidence level.
	CO5	**Examine** the relationship between Parametric and Non-parametric procedures through Chi-square test, 'T' test, 'F' test, Analysis of Variance (ANOVA).

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	M	L	L	M	L	L	M
CO2	S	M	L	M	L	L	M	L	L	M
CO3	S	M	L	M	M	S	M	L	L	M
CO4	S	M	L	S	L	L	M	L	L	M
CO5	S	M	M	S	L	S	M	L	M	M

Programme :B.Sc Geography | Part III: CORE PAPER / ENTERPRENEURIAL SKILL

Semester :III | Hours : 1 Hrs /W (75Hrs P/S)

Sub. Code : **U23SEG4** | Credits: 1

TITLE OF THE PAPER: **PREPARATION OF CHART FOR RURAL AND URBAN ACTIVITIES**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	To acquire the basic knowledge of Rural & Urban Activities. To understand the need of basic services in Rural areas in the way of rural land use. To get the knowledge of urban areas in the form of urban land use. To explore the basic knowledge of services and functions to represented in the form of charts.

UNITS	COURSE DETAILS
I	**Activities of Rural :** Primary sector activities – Agriculture – Dairy – Cottage and Small Scale industries.
II	**Activities of Urban:** Services – Basic Functions – industry-manufacturing.
III	**Chart:** Definitions – Types of Charts

IV	Methods of Representation of Charts – Rural Activities – Urban Activities.
V	Preparation of Charts – Rural – Urban Acitvities.
TEXT BOOKS	1. S.D. Maurya, Settlement Geography , Sharda Pustak Bhawan, Allahabad. 2. Bagulia A.M (2006): Practical Geography, Anmol Publishers. 3. Zulfequar Ahmed Khan M.D (1997): Text book of Practical Geography, Concept Publishing Company , New Delhi.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To acquire the basic knowledge of Rural & Urban Activities.
	CO2	To understand the need of basic services in Rural areas in the way of rural land use
	CO3	To get the knowledge of urban areas in the form of urban land use.
	CO4	To explore the basic knowledge of services and functions to represented in the form of charts.
	CO5	To enrich the development of charts in cartography.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10

CO1	**S**	**L**					**L**	**L**	**L**	**L**
CO2	**S**	**L**	**L**	**L**			**L**	**L**	**L**	**L**
CO3	**S**	**L**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO4	**S**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO5	**S**	**M**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**

Programme :B.Sc Geography Part III: CORE PAPER

Semester :III Hours : 2Hrs /W (75Hrs P/S)

Sub. Code : U23SEG5 Credits: 2

TITLE OF THE PAPER: **GEOGRAPHY OF HEALTH**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	✔

LEARNING OBJECTIVES	To understand the relationship between health and geography and the driving force of health and environment. To recall the history of disease and elaborate on the agents of disease. To illustrate the components of the influencing environment on health. To differentiate the types of diseases like communicable and non-communicable diseases. To elaborate on the health care planning and management of the World and India.

UNITS	COURSE DETAILS
I	**Geography of Health** – Definition – perspectives and Bio-Medical Approach –Psychological – Sociological – Economic – Geographic Approach - Driving Forces in Health and Environment.
II	**Concept of Diseases** – History of Diseases – Agents of diseases – Control of Diseases, Transmission Triad and mode.
III	**Health and Diseases** – Control of Diseases in Environmental context with special reference to India – types of Diseases and their regional Pattern – Communicableand Non-communicable diseases.
IV	**Environment and Health** – Three components of the environment – Physical, Biological, and Social, Occupational Health, Mental health, Health Information, and Basic Medical Statistics – Mapping of Diseases.
V	**Health Care Planning and Management**– Health Organization – Hierarchy of Public Health Care System in India, health planning in India– Health Policies and Schemes in India – International health -WHO
TEXT BOOKS	1. K.Park XX edition, 2009Park's Textbook of Preventive and Social Medicine.M/s Banarisdas.Bhanot Publishers, India. 2. Avon Joan L. and Jonathan A Patzed.2001: Ecosystem Changes and Public Health,Baltimin,JohnHopling UNIT Press(ed). 3. Christaler George and HristopolesDionissios, 1998: Spatio Temporal Environment Health Modelling, Boston Kluwer Academic Press. 4. Cliff, A.D. and Peter,H., 1988 : Atlas of Disease Distributions, Blackwell Publishers, Oxford.

WEB RESOURCES	1. https://jhpn.biomedcentral.com/ 2. https://www.researchgate.net/ 3. https://www.healthgeography/

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the relationship between health and geography and the driving force of health and environment.
	CO2	To recall the history of disease and elaborate on the agents of disease.
	CO3	To illustrate the components of the influencing environment on health.
	CO4	To differentiate the types of diseases like communicable and non-communicable diseases.
	CO5	To elaborate on the health care planning and management of the World and India.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	**S**	**M**	**M**	**L**	**M**		**M**	**L**	**L**	**L**
CO2	**S**	**M**	**M**	**L**	**L**	**L**	**M**	**L**	**L**	**L**
CO3	**S**	**M**	**M**	**L**		**L**	**L**	**L**	**L**	**L**
CO4	**S**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO5	**S**	**M**	**L**	**M**		**M**	**L**	**L**	**L**	**L**

SEMESTER -IV

Programme :B.Sc Geography — Part III: CORE PAPER

Semester :IV — Hours : 4Hrs /W (75Hrs P/S)

Sub. Code : **U23CG7** — Credits: 4

TITLE OF THE PAPER: **ECONOMIC GEOGRAPHY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

	To recall the Scope and content of Economic Geography and observe the Resource classification.

LEARNING OBJECTIVES	To examine the factors of agriculture and to describe the distribution of Crops. To differentiate and classify the Mineral Resources and distribution of Power Resources. To Compare and distinguish the Industries and Industrial Regions. To infer and integrate the transport and major importing and exporting trade.

UNITS	COURSE DETAILS
I	**Economic Geography**- Definition- Scope and content- the significance of Economic Geography– Classification of resources – Renewable and Non-Renewable Resources – (Exhaustible and Inexhaustible resources).
II	**Agriculture** – Factors affecting Agriculture –(Agriculture Region) - Food crops– Distribution and Production of Rice, Wheat, - commercial crops (Cotton and Jute)- Beverage crops(coffee, tea).
III	**Mineral Resources**- Types of Minerals – Metallic Minerals (Iron ore, bauxite and Mica), Non-Metallic Minerals (Gypsum) – Fuel (Coal, Petroleum, Natural gas) - Power resources – Hydel power, Thermal, Atomic power.
IV	**Industries** – Localization factors for Industries – Agro -based – (Textile Industry, Cotton, Jute) - Mineral Based-(Iron and Steel, Engineering Industries)-Shipbuilding.
V	**Transport and Trade:** Transport – Types of Roadways (National Highways, State, District, Express Highway)- Railways (Broad Gauge, Narrow gauge, Meter Gauge)- Waterways and Major Sea Routes. -Trade - National and international.
TEXT BOOKS	1. Sharma, Siya Ram (2008) :Economic Geography ,Murari Lal Publications. 2. Hussain, Ahmad (2006) : Economic Geography, Vishvabharthi Publications. 3. Singh.I (2006) :Economic Geography, Alfa publications.

WEB RESOURCES	4. www.wikipedia.org/wiki/ Economic Geography 5. joeg.oxford journals.org/

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To recall the Scope and content of Economic Geography and observe the Resource classification.
	CO2	To examine the factors of agriculture and to describe the distribution of Crops.
	CO3	To differentiate and classify the Mineral Resources and distribution of Power Resources.
	CO4	To Compare and distinguish the Industries and Industrial Regions.
	CO5	To infer and integrate the transport and major importing and exporting trade.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	L	L	L	L		L	L	L	L

CO2	S	L	L	L	L		L	L	L	L
CO3	S	M	M	L	M	L	M	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	M	L	M	L	L	L

Programme :B.Sc Geography Part III: CORE PAPER

Semester :IV Hours : 3Hrs /W (75Hrs P/S)

Sub. Code : U23CG8P Credits: 3

TITLE OF THE PAPER: **COMPUTER ASSISTED DIAGRAMS**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

	To understand the development of diagrams with Micro soft excel. To illustrate and examine the

LEARNING OBJECTIVES	components of Diagrams. To elaborate on the representation of excel techniques.To summarize the recent technologies in digital Cartography.

UNITS	**COURSE DETAILS**
I	Graphs- Line graph – Multiple graph – Band graph- using Excel.
II	One dimensional - Bar Diagram : Simple Bar – vertical Bar – Horizontal Bar and Compound Bar – Compared Bar – Multiple Bar- Pyramidal Bar – using Excel.
III	Two dimensional diagram – square – circle and pie diagram.
IV	Three dimensional diagram – cube – spherical diagram.
V	Locational diagram maps: Line –Bar–Circle and Pie diagram.
TEXT BOOKS	1.Ahmad khan. M.Z- Text Book of practical Geography – Concept Publishing company ,New Delhi – 1988. 2.Ishtiaq M. – A text Book of practical Geography – Heritage Publishers - New Delhi - 2001. 3.Jayachandran.S – Practical geography – Tamilnadu Book Society, Chennai, 1963 (Tamil copy). 4.Misra R.P. and Ramesh. A – Fundamentals of Cartography – Concept Publishing company – New Delhi – 2002. 5.Monkhouse F.J. & Wilkinson H.R - Maps and Diagrams-Methuen, London - 1994. 6.Dr. Pijushkanti Saha & Dr. ParthBasu - Advanced Practical Geography – A Laboratory Manual - Books&Allied Pvt.Ltd,Kolkatta - 2004. 7.Singh and Kanunja - Map work and Practical Geography –Central Book Depot –Allahabad – 1979.

	8.Singh R.L - Elements of Practical Geography – Kalyani PublisheNew Delhi - 1979.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the development of Cartography, with the types of graphs.
	CO2	To illustrate and examine the components of Diagrams.
	CO3	To elaborate on the representation of mapping techniques.
	CO4	To enrich the development of diagrams in the cartography.
	CO5	The recent techniques in locational diagrams.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	**S**	**L**					**L**	**L**	**L**	**L**
CO2	**S**	**L**	**L**	**L**			**L**	**L**	**L**	**L**
CO3	**S**	**L**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO4	**S**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**
CO5	**S**	**M**	**M**	**M**	**L**	**L**	**L**	**L**	**L**	**L**

Programme :B.Sc Geography Part III: CORE PAPER

Semester :IV Hours : 2Hrs /W (75Hrs P/S)

Sub. Code : **U23SEG6** Credits: 2

TITLE OF THE PAPER: **BASICS OF GEOGRAPHICAL INFORMATION SYSTEM**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented	✔	Addresses Gender Sensitization	✔
Relevant to Regional need	✔	Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To acquire the knowledge on the development of GIS. To distinguish between the significance of Spatial and non-spatial data. To understand the importance of DBMS. To update the recent trends on GIS analysis. To explore the application of GIS and its software.

UNITS	COURSE DETAILS
I	**Geographical Information System**: Definition –Historical development - Components of GIS- data storage and manipulation – data transformation – data output devices.
II	**Spatial and Non- spatial Data**, Raster and Vector Data Structure. Comparison of raster and vector data.Geographical coordinate systems of earth: UTM.
III	**DBMS** – components - query - digitization – editing – topology – layout preparation.
IV	**GIS analysis**: Single layer analysis: butter – interpolation, overlay analysis.
V	**Application of GIS and GIS Software**; Land use/ Land cover/ Urban sprawl /Agriculture and environment. Disaster; Arc view, Arc GIS, ILWIS, GRASS, QGIS, ENVIS.
TEXT BOOKS	1. Chandra A.M&Ghosh.S.K. (2016).*Remote Sensing and Geographic Information System*.Narosa Publishing House. 2. Bhatta,Basudeb(2011). *Remote sensing and GIS*, Oxford University Press/ Radha press NewDelhi. 3. Siddique,Dr. M.A.(2006).*Introduction to Geographic Information Systems*.ShardaPustakBhawan, Allahabad. 4. Anand,Dr. P.H. and V. Rajesh Kumar (2003). *Principles of Remote Sensing and GIS*. Sri Venkateswara Publications, Kumbakkonam.
WEB RESOURCES	1. www.gdmc.nl/oosterom/PoGISHyperlinked.pdf 2. gisgeography.com › GIS Analysis 3. www.gisresources.com 4. www.researchgate.net

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	75	100	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the development and history of Cartography, with the types of maps.
	CO2	To illustrate and examine the components of Maps.
	CO3	To elaborate on the representation of mapping techniques.
	CO4	To enrich the development of remote sensing in the cartography.
	CO5	To summarize the recent technologies in digital Cartography.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	L	L				L	L	L	L
CO2	S	L	L	L	M		L	L	L	L
CO3	S	L	L	M		M	L	L	L	L
CO4	S	M	M	M	S	M	L	L	L	L
CO5	S	S	M	M		M	L	L	L	L

SEMESTER - V

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :IV | Hours : 2Hrs /W (75Hrs P/S)

Sub. Code : **U23SEG7** | Credits: 2

TITLE OF THE PAPER: **BIO GEOGRAPHY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented	✔	Addresses Environment and Sustainability	✔

Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To understand the content of Bio-Geography and components of biosphere. To identify elements and types of biodiversity. To illustrate the different types of Biomes of India. To understand the ecosystem balance and biosphere reserves. To elucidate the association between biodiversity and sustainable development.

UNITS	**COURSE DETAILS**
I	Bio Geography- Nature, Scope and Content – branches of Biogeography -types of biogeography.
II	Evolution of flora and fauna with geological time scale.
III	Biodiversity – Meaning – Definition – Elements and Types of Biodiversity
IV	Biomes of India – Terrestrial Biomes, Freshwater Biomes, Marine biomes– Biosphere Reserves of India.
V	Global Environmental Policies - Treaties and laws to protect endangered species, SDG- 17 Goals.
TEXT BOOKS	1. S.P. Mishra and S,P. Pandey : Essential Environmental Studies; Ane Books Pvt. Ltd, 2010. 2. George Simonds Bougler (2009):The Science Teaching of Forestry. 3. Savindrasingh (2008):Environmental Geography. 4. Bhattacharyya N.N (2003): Bio Geography, Rajesh Publication New Delhi.
WEB RESOURCES	1. www.botany.wisc.edu/ 2. www.biogeography.com

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the content of Bio-Geography and components of biosphere.
	CO2	To identify elements and types of biodiversity.
	CO3	To illustrate the different types of Biomes of India.
	CO4	To understand the ecosystem balance and biosphere reserves.
	CO5	To elucidate the association between biodiversity and sustainable development.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L

CO5	S	M	M	M	L	L	L	M	L	L

SEMESTER - V

Programme :B.Sc Geography
Part III: CORE PAPER

Semester :V
Hours : 5Hrs /W (60Hrs P/S)

Sub. Code : **U23CG9**
Credits: 5

TITLE OF THE PAPER: **OCEANOGRAPHY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented	✔	Addresses Gender Sensitization	

Relevant to Regional need	✔	Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To understand the term Ocenography definition, description of Ocean and Seas, Extent, surface configuration of the Ocean floor. To acquire wide knowledge on Hypsometric curve, Continental Shelf. To understand and illustrate on bottom relief of Pacific, Atlantic and Indian Ocean and Composition of sea water. To describe the Circulation of Ocean Movements.

UNITS	COURSE DETAILS
I	Oceanography: Definition, Oceans and seas - Extent and distribution – Surface configuration of the Ocean floor, Hypsometric curve – Continental shelf – Continental slope – Abyssal Plain – Deeps and Trenches.
II	To understand and illustrate on bottom relief of Pacific, Atlantic and Indian Ocean and Composition of sea water.
III	Ocean Temperature and Salinity: Distribution and factors – Horizontal and vertical - Factors affecting temperature and salinity distribution.
IV	Ocean Water Movement – Waves – Tides: Types - Ocean Currents: Types - Currents of Pacific, Atlantic and Indian Oceans.
V	Ocean Deposits: Types - Coral Reefs: Formation and types - Ocean resources and need for conservation - National Institute of Ocean Technology (NIOT).
TEXT BOOKS	1.Savindra Singh, (2008), Oceanography, PrayagPushtak Bhawan, Allahabad.

	2.Siddartha. K., (2005). Oceanography – A brief Introduction, Kisalaya Publications Pvt. Ltd., New Delhi. 3.Gupta, A and Kapoor A. N., (2001), Principles of Physical Geography, S.Chand& Company Ltd., New Delhi. 4.Lal D.S., (1990) Oceanography, Chatianya Publishing House, Allahabad
WEB RESOURCES	books.google.com>science>earth sciences>geography
	https://www.nios.ac.in/media/documents/316courseE/ch11.pdf

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the term Ocenography definition, description of Ocean and Seas, Extent, surface configuration of the Ocean floor.
	CO2	To understand and illustrate on bottom relief of Pacific, Atlantic and Indian Ocean and Composition of sea water.
	CO3	To illustrate the distribution of Salinity and factors affecting temperature
	CO4	To describe the Circulation of Ocean Movements

	CO5	To explain the distribution of Ocean deposits and resources.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography
Part III: CORE PAPER

Semester :V
Hours : 5Hrs /W (60Hrs P/S)

Sub. Code : **U23CG10**
Credits: 5

TITLE OF THE PAPER: **WORLD REGIONAL GEOGRAPHY**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to	✔	Entrepreneurship	✔	Addresses Gender	

National need		Oriented		Sensitization	
Relevant to Regional need	✔	Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To understand the term region definition, description of natural vegetation, landforms associated with animal and plant life. To acquire wide knowledge on world regions. To understand and illustrate on warm temperate regions, Mediterranean regions. To describe the cool temperate and polar region.

UNITS	**COURSE DETAILS**
I	Definition of Region – Physical Elements – Space Relationships -Weather and Climate -Landforms – Hydrology – Natural Vegetation – Forest , Grasslands , Desert – The associated Animal Life – soil - Population - Economic Activities - Cultural Features.
II	World Regions: Major Climatic Regions of the World – Location and Characteristics – Equatorial Regions, Highland and Lowland Regions – Tropical Regions; Monsoons, Tropical Grassland and Tropical Deserts.
III	Warm Temperate Regions – Mediterranean – Temperate Grassland , China Type.
IV	Cool Temperate Regions: British Type or Marine West Coasts , Siberian Type and Laurentian Type.
V	Polar Regions: Highland or Ice Cap Type , Lowland or Tundra Type.
TEXT BOOKS	1. Gopal singh, (1996). Map work and practical geography, Vikas Publishing House Pvt.Ltd.,

	2. Khullar, (1997). Practical Geography, Educational Publishers, New Delhi. 3. Monkhouse, F.J. and Wilkinson, H.R., (1989). Maps and Diagrams, B.I.Publications, New Delhi. 4. Pijushkanti Saha and Partha Basu, (2010). Advanced Practical Geography, Books and Allied (P) Ltd, Kolkata. 5. Singh, R. L., (2005). Elements of Practical Geography, Kalyani Publishers, New Delhi. 6. Zulfequar Ahmad Khan, M. D., (1998). Text Book of Practical Geography, Concept Publishing Company, New Delhi.
WEB RESOURCES	books.google.com>science>earth sciences>geography

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the term region definition, description of natural vegetation, landforms associated with animal and plant life.
	CO2	To acquire wide knowledge on world regions.
	CO3	To explain the warm regions and china type.

	CO4	To understand and illustrate on warm temperate regions, Mediterranean regions.
	CO5	To describe the cool temperate and polar region.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography
Semester :V
Sub. Code : **U23CG11P**

Part III: CORE PAPER
Hours : 6Hrs /W (60Hrs P/S)
Credits: 3

TITLE OF THE PAPER: **MAP MAKING AND MAP INTERPRETATION**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To understand the term map making. To acquire wide knowledge on cartographic appreciation. To understand and illustrate on US topographical maps. To describe the aerial photographs with stereo pairs. To assess the Remote sensing data with satellite imageries.

UNITS	**COURSE DETAILS**
I	Principles of Map Making : Signs and Symbols- Interpretation of Indian topographical maps-SOI maps.
II	Cartographic appreciation - British Topographical maps.
III	US Topographical maps Interpretation.
IV	Aerial photographs - Photo scale determination – Stereo Pair – Interpretation .
V	Satellite Imageries – Interpretation.
TEXT BOOKS	1. Gopal singh, (1996). Map work and practical geography, Vikas Publishing House Pvt.Ltd., 2. Khullar, (1997). Practical Geography, Educational Publishers, New Delhi.

	3. Monkhouse, F.J. and Wilkinson, H.R., (1989). Maps and Diagrams, B.I.Publications, New Delhi. 4. Pijushkanti Saha and Partha Basu, (2010). Advanced Practical Geography, Books and Allied (P) Ltd, Kolkata. 5. Singh, R. L., (2005). Elements of Practical Geography, Kalyani Publishers, New Delhi. 6. Zulfequar Ahmad Khan, M. D., (1998). Text Book of Practical Geography, Concept Publishing Company, New Delhi.
WEB RESOURCES	books.google.com>science>earth sciences>geography

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the term map making.
	CO2	To acquire wide knowledge on cartographic appreciation.
	CO3	To understand and illustrate on US topographical maps.
	CO4	To describe the aerial photographs with stereo pairs.
	CO5	To assess the Remote sensing data with satellite imageries.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography **Part III: CORE PAPER**
Semester :V **Hours : 5Hrs /W (90Hrs P/S)**
Sub. Code : U23CG12 **Credits: 5**
TITLE OF THE PAPER: **GEOGRAPHY OF TAMILNADU**

Relevant to Global need	✔	Employability Oriented	✔	Addresses Professional Ethics	✔
Relevant to National need		Entrepreneurship Oriented	✔	Addresses Gender Sensitization	
Relevant to Regional need		Skill Development Oriented	✔	Addresses Environment and Sustainability	✔
Relevant to Local need				Addresses Human Values	

LEARNING OBJECTIVES	**To** Identify the location, Relief, Drainage, Climate, Types of Soils and Forest of Tamil Nadu. To Examine the distribution of various forests, livestock and fisheries in Tamil Nadu. To Analyse the irrigation and agricultural resources in Tamil Nadu. To Knowledge about the different types mineral and industrial resources in Tamil Nadu. To Understand the growth, distribution of population of Tamil Nadu and the various kinds of transportation like land ,water and air and trade

UNIT	DETAILS
I	Location and Extend: Administrative units – Major relief features Major rivers – Climate: temperature, Seasonal and Annual rainfall distribution, Soil: types and their distribution
II	Forest, Livestock and Fisheries: Types and distribution, forest products, Livestock: cattle, sheep, dairying and fisheries-inland and deep-sea fishing.
III	Irrigation and Agriculture Resources: types and distribution – canal, tank and well irrigation, Agriculture: distribution and production of rice, cotton, sugarcane, and rain fed crops, oil seeds, tea and coffee
IV	Mineral and Industrial Resources: General distribution and production. Power resources: Hydel, thermal, atomic and wind power, Industries: distribution and production of – cement, sugar, cotton, automobile and paper
V	Transport: Development and distribution of roads, railways, air and sea transportation - Important ports, Population – growth and distribution of rural and urban population
TEXT BOOK:	
1	. Kumaraswamy, S.V. (2014). Geography of Tamil Nadu (Tamil Edition), Sakthi Abirami Pathipagam, Coimbatore.

	2. SHBoTN (2004). Statistical Hand Book of Tamil Nadu. Department of Economics and Statistics, Government of Tamil Nadu, Chennai. 3. TNEA (2014). Tamil Nadu – An Economic Appraisal 2011-12 to 2013-14. Department of Evaluation and Applied Research, Chennai. 4. SCRoTN (2004). Season and Crop Report of Tamil Nadu for the Agricultural Year 2003-2004. Department of Economics and Statistics, Chennai.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	75	100	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To Identify the location, Relief, Drainage, Climate, Types of Soils and Forest of Tamil Nadu
	CO2	To Examine the distribution of various forests, livestock and fisheries in Tamil Nadu
	CO3	To Analyse the irrigation and agricultural resources in Tamil Nadu
	CO4	To Knowledge about the different types mineral and industrial resources in Tamil Nadu
	CO5	To Understand the growth, distribution of population of Tamil Nadu and the various kinds of transportation like land ,water and air and trade

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	L	L	L	L	L	M	L	L	L

CO2	**S**	**L**	**L**	**L**	**L**	**L**	**M**	**L**	**L**	**L**
CO3	**S**	**L**	**M**	**L**	**M**	**L**	**L**	**L**	**L**	**L**
CO4	**S**	**M**	**L**	**L**	**M**	**L**	**L**	**L**	**L**	**L**
CO5	**S**	**M**	**L**	**M**	**M**	**L**	**L**	**L**	**L**	**L**

Programme :B.Sc Geography
Semester :V
Sub. Code : **U23DG01**

Part III: CORE PAPER
Hours : 4Hrs /W (60Hrs P/S)
Credits: 3

TITLE OF THE PAPER: **HUMAN GEOGRAPHY**

Relevant to Global need	✔	Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	✔
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To understand the basic concepts of Human Geography and assess the relationship between Man and Environment. To elaborate the school of thoughts. To discuss the distribution of Major Human Races in World. To illustrate the World Major Religions. To compare and distinguish the World Major Languages and Language groups.

UNITS	COURSE DETAILS
I	Human Geography – Nature, Scope and Significance of Human Geography – Man and Environment Relationship
II	Schools of Thoughts: Determinism, Neo Determinism , Possibilism - French – German – British .
III	Major Human Races in World – Classification of Major Races – Caucasoid - Mongoloid.
IV	World Major Religions: Religion distribution – Hinduism - Buddhism – Jainism - Christianity- Islam- Religions in India.
V	World Major Languages Indo-European – Germanic family, Latin Linguist family, Ballot Salvic languages –sino -Tibetan, Semito - hemitian, African.

TEXT BOOKS	1.Majid Hussain (2011) Human geography, Rawat publications, New Delhi 2.Lekh raj singh (2009): Fundamentals of human geography, Sharda pustakbhawan,publishers
WEB RESOURCES	http://jizaberg.tumblr.com/post/24880131860/download-researching-human-geography-pdf-ebook
	http://walkgeographies.files.wordpress.com/2009/03/gregoryetal_dictionary_human_geography_2009.pdf

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	**Recall** the Nature and Scope of Human geography, compare with the other branch of Geography , **Understand** the significance of Human geography, **analyse**the Man and environment relationship**, explain** the theories of population, **examine** the populationdata
	CO2	Understands the basis of the study of Geography through the elaborate understanding of the School of thoughts
	CO3	**Explain** the distribution of Major human races in the world, compare World Distribution of Races, **analyse** Racial parameters and indices(Shape, Skull, Face, Nose, Stature,, **examine** White (Caucasian), **Classifying** Asian(Mongoloid), outline the Black(Negroid Group discussion Classification of Races
	CO4	**Recall** the Major Religions, explain Hinduism, Buddhism, Jainism, Christianity, Islam, **examine** the Religious distribution around the world, **compare** Languages, Vernacular and Dialectics

	CO5	Estimate the distribution of Language groups (Chinese, Spanish, English, Hindi, Arabic German, French and Portuguese.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :V | Hours : 4Hrs /W (60Hrs P/S)

Sub. Code : **U23DG02** | Credits: 3

TITLE OF THE PAPER: **WATER RESOURCE MANAGEMENT**

Relevant to Global need	✔	Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	✔
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To understand the basic concepts of resource Geography and assess the relationship between surface water,run off, and water table. To elaborate the understanding about water storage, moisture etc. To discuss the distribution of water uses of domestic and irrigation. To illustrate the problems of water resources. To distinguish the World conversion and planning of water resources.

UNITS	COURSE DETAILS
I	Water as a Resource – Surface Water – Run off – Factors affecting Run off – Ground Water – Types – Porosity, Permeability - Water Table.
II	Water storage – Glaciers, River Channels, Lakes and Reservoirs, Soil Moisture, Ground water – Hydrological cycle.

III	Water Uses – Consumptive and non consumptive, Domestic, Municipal, Irrigation and industries.
IV	Problems of water resources- Major areas of Flood and Drought occurrences and Management.
V	Conservation and Planning – Integrated Basin Planning – Conjuctive use of Surface and Groundwater Resources – Laws of Protection of Water Resource.
TEXT BOOKS	1. Butler – Process and pattern in physical geography – Johnes Ltd, London 1985. 2. Chow. V.T. Hand Book of Applied Hydrology – M.C. Crow Hill 1964. 3. David Keithtoo – Ground Water Hydrology – John Wiley and sons, New York 1960. 4. Ragunath – Hydrology Principles Analysis Design – Wiley Eastern Ltd. New Delhi 1986.
WEB RESOURCES	http://jizaberg.tumblr.com/post/24880131860/download-researching-human-geography-pdf-ebook

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To understand the basic concepts of resource Geography and assess the relationship between surface water,run off, and water table

	CO2	To elaborate the understanding about water storage, moisture etc.
	CO3	To discuss the distribution of water uses of domestic and irrigation.
	CO4	To illustrate the problems of water resources.
	CO5	To distinguish the World conversion and planning of water resources.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :V | Hours : 4Hrs /W (60Hrs P/S)

Sub. Code : **U23DG03** | Credits: 3

TITLE OF THE PAPER: **RESEARCH METODOLOGY**

Relevant to Global need	✔	Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	✔
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To elaborate the need for research and its types. To elucidate the different types of data collection in the field of Geography. To have empirical knowledge on hypothesis testing. To assess the need for quantitative techniques in Geographical Research. To design the research proposal and methodological procedures to conduct the research.

UNITS	COURSE DETAILS
I	Definition of Research - Aims and Objective of Research - Types of Research - Qualitative, Quantitative.
II	Empirical – Scientific method - Multi disciplinary and inter disciplinary approach.
III	Data Collection: Primary and Secondary data - Field work - Aerial Photograph, Census data and satellite imageries as data sources - Sampling and sample survey - Designing Questionnaires and schedules.

IV	Hypothesis testing - formulation of Hypothesis - its importance - Scientific Hypothesis- Null Hypothesis - Alternative Hypothesis.
V	Selection of a Problem - Design of Project – Research proposal - Scientific Writing - Methodological frame work - Chapter organization – Appendix- Bibliography.
TEXT BOOKS	1.Newman, Lawrence. (2015). Social Research Methods: Qualitative and Quantitative Approaches. Pearson 2.Kothari.C.R& Gaurav Garg. (2012). Research Methodology Methods and Techniques. New Age International Publishers
	3.Johnn, Best.W&James.V(2006). Research in Education. Pearson
	4.Cole and King (1989). Quantitative Geography Techniques and Theories in Geography. John Wiley and sons Ltd., London.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To elaborate the need for research and its types.
	CO2	To elucidate the different types of data collection in the field of Geography.
	CO3	To have empirical knowledge on hypothesis testing.
	CO4	To assess the need for quantitative techniques in Geographical Research.
	CO5	To design the research proposal and methodological procedures to conduct the research.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :V | Hours : 4Hrs /W (60Hrs P/S)

Sub. Code : **U23DG04** | Credits: 3

TITLE OF THE PAPER: **POLITICAL GEOGRAPHY**

Relevant to Global need	✔	Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	✔
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To acquire basic knowledge on the Political Geography. To elaborate the spatial distribution of Core Areas of Political Geography. To discuss the importance of Boundaries and Frontiers. To elaborate on Geography of Elections. To illustrate the Political Geography of India.

UNITS	**COURSE DETAILS**
I	Political Geography: Definition, Scope, Content and Development – Geopolitics - State: Categories -Powers and Functions - Nations and Nationalism.
II	Core Areas: Types – Capitals: Types - Morphological classification - Factors of Development, Federal Capitals – New and Neutral Capitals – Capitals in Post -1945 federations.
III	Boundaries and Frontiers: Definition – Classification: Genetic and Functional – Morphological Classification (Buffer Zone – Land locked Countries) – Border Disputes.

IV	Electoral Geography: Geography of Elections – Election Campaigning - Voting Pattern - Voters' Participation – Gerry Mandering – Election Commission.
V	Political Geography of India: Integration of Indian States: Integration of Sikkim – India's Bilateral Relationship with Pakistan and Sri Lanka – SAARC Countries - India's Foreign Policies.
TEXT BOOKS	Dwivedi, R.L. (2014). *Fundamentals of Political Geography*. Chaitanya Publishing House, Allahabad. Adhikari, Sudeepta. (2009). *Political Geography of India- A Contemporary Perspective*. Sharada Pustak Bhavan, Allahabad.
	Sudeeptha Adhikari, (2004), Political Geography, Rawat publications, New Delhi.
	Dikshit, R.D. (1982). Political Geography: A contemporary perspective, McGraw Hill Publishing co., New Delhi.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To acquire basic knowledge on the Political Geography.
	CO2	To elaborate the spatial distribution of Core Areas of Political Geography.
	CO3	To discuss the importance of Boundaries and Frontiers.

	CO4	To elaborate on Geography of Elections.
	CO5	To illustrate the Political Geography of India.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

SEMESTER – VI

Programme :B.Sc Geography
Part III: CORE PAPER

Semester :VI
Hours : 6Hrs /W (60Hrs P/S)

Sub. Code : **U23CG13**
Credits: 5

TITLE OF THE PAPER: **GEOGRAPHY OF INDIA**

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To elaborate on the Location and Physiography of India. To understand the climate and soil distribution of India. To illustrate the agricultural distribution of India and the need for geographical factors for crop production. To distinguish the metallic and non metallic minerals, and understand the distribution of Indian Industries. To elaborate the distribution of population and transport in India.

UNITS	COURSE DETAILS
I	Location – Frontiers- Neighbouring Countries- Physiography -Himalayas, Western Ghats and the Eastern Ghats –Plateau - East Coastal Plain, West coastal plain and Islands - Rivers :Northern (Peninsular) and Southern (Non Peninsular).

II	Climate –Seasons, Monsoons, Rainfall Pattern and Distribution of Rainfall. Soil- Types of Soil - Natural Vegetation- Tropical Forest, Sub Tropical Forest, Evergreen Forest, Mangrove, Thorny Forest.
III	Agriculture – Geographical Requirements of Crops – Rice - Wheat – Oilseeds – Sugarcane – Cotton - Jute - Tea – Coffee – Rubber - Livestock – Fisheries- Irrigation – Types – Multipurpose Projects.
IV	Minerals – Metallic and Non-Metallic Minerals - Iron – Manganese – Bauxite- Copper- Mica- Illuminate- Energy (Hydel, Thermal and Atomic) - Industries- Iron & Steel – Textiles – Paper — Shipbuilding – Locomotives – Cement – Fertilizer- Major Industrial.
V	Population – Distribution - Density and growth –Population Problems - Transport – Roadways – Railways – Water ways – Air ways – Ports and Harbors - Trade – Export and Import.
TEXT BOOKS	Khullar, D.R. (2014): India a Comprehensive Geography, Kalyani Publishers, Edition 03. Umesh Kumar (2012): Geography of India,Global Vision pub.
	Chandra Vijay Purty (2011) :Geography of India, ABD Publishers.
	Rupali Chatterjee (2010): Geography of India, Global Vision publishers

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To elaborate on the Location and Physiography of India
	CO2	To understand the climate and soil distribution of India.
	CO3	To illustrate the agricultural distribution of India and the need for geographical factors for crop production.
	CO4	To distinguish the metallic and non metallic minerals, and understand the distribution of Indian Industries.
	CO5	To elaborate the distribution of population and transport in India.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :VI | Hours : 6Hrs /W (60Hrs P/S)

Sub. Code : **U23CG14** | Credits: 5

TITLE OF THE PAPER: **POPULATION AND SETTLEMENT GEOGRAPHY**

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To Enrich the knowledge on Scope and Significance of Population Geography. To illustrate on the Components of Demography. To elaborate on Rural and Urban Settlements. To understand the Functional classification of towns and villages. To acquire knowledge on Housing and House Types, Factors influencing house types.

UNITS	COURSE DETAILS
I	Nature, Scope and Significance of Population Geography –Theories of Population Growth – Malthus theory, Optimum theory, theory of Demographic Transition.
II	Components of Demography: Fertility, Mortality, Sex ratio - World Trend of Population Growth - World Population Distribution - Density Patterns.
III	Rural and Urban Settlements: Site – Situation – Pattern – Forms and Functions Planned Settlement – Rank Size rule.Migration:

	Causes of Migration, Emigration versus Immigration, Laws of Migration.
IV	Functional classification of towns and villages: Size of village, Size and distribution of hamlets, Character of villages and village sites; Functional classification of urban centers, Functional structure of cities, megacities and megapolis in India.
V	Housing and House Types, Factors influencing house type – Relief, Climate, Socio economic and other factors, Building materials for House types – Walls, Roofing, Materials. Types of Houses in India-Types of rural and urban houses in India.
TEXT BOOKS	S.D.Maurya (2017) Population Geography ,Himalaya Publishing House, New Delhi. Siddhartha, K & Mukherjee. S. (2016). *Cities, Urbanisation and Urban Systems(Settlement Geography).* Kitabmahal Publishers.
	R.C.Chandana(2012) Geography of Population, Kalyani Publishing House, New Delhi.
	Mandal, R.B.(2001).*Introduction to Rural Settlements*. Concept Publishing House, NewDelhi.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To Enrich the knowledge on Scope and Significance of Population Geography
	CO2	To illustrate on the Components of Demography.
	CO3	To elaborate on Rural and Urban Settlements
	CO4	To understand the Functional classification of towns and villages
	CO5	To acquire knowledge on Housing and House Types, Factors influencing house types.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :VI | Hours : 6Hrs /W (60Hrs P/S)

Sub. Code : **U23CG15P** | Credits: 5

TITLE OF THE PAPER: **PROJECTION AND SURVEYING**

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To acquire the knowledge of Conical Projection. To get the knowledge of properties of cylindrical projection. To get depth knowledge to construct international projection and Choice of Projection. To acquire the basic knowledge of survey techniques. To get the knowledge of recent trends in Geographical Applications.

UNITS	COURSE DETAILS
I	Map projection - Construction – Properties and utilities- Conical Projection – One standard Projection - Two standard parallel Projection – Bonne's projection and Polyconic projection.
II	Construction of Cylindrical Projection - Equal area Projection – Equidistant Projection - Mercator's Projection.
III	Zenithal Projection (Polar case) Gnomonic, Stereographic – Orthomorphic world projection – Molleweide – Sinusoidal- International projection - Choice of projection.

IV	Simple Plane table survey-Open and Closed Travers – Clinometer - Dumpy level methods of surveying – Chain (open and closed) – Prismatic compass (open and closed).
V	GPS, Survey with GPS- Aerial and Satellite based survey techniques (Photogrammetry, RADAR, LiDAR) - Survey by GPS - Geographical applications such as Google maps and Google earth pro.
TEXT BOOKS	Saha, Pijushkanti (2010)"Advanced Practical Geography, Books and Allied pvt Ltd. Bagulia A.M (2006) : Practical Geography , Anmol Publishers.
	Khan, Zulfequar Ahmed M.D (1997):Text book of Practical Geography, Concept Publishing Company , New Delhi.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To acquire the knowledge of Conical Projection
	CO2	To get the knowledge of properties of cylindrical projection
	CO3	To get depth knowledge to construct international projection and Choice of Projection.

	CO4	To acquire the basic knowledge of survey techniques
	CO5	To get the knowledge of recent trends in Geographical Applications.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :VI | Hours : 5Hrs /W (60Hrs P/S)

Sub. Code : **U23DG05** | Credits: 3

TITLE OF THE PAPER: **REMOTE SENSING AND GNSS**

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To have basic knowledge on basics of Remote sensing. To elaborate on the fundamentals and significance of Aerial photographs and satellite types. To have the deep knowledge on the types of resolution and marginal information of Aerial photos and satellite images. To explore the application of Remote sensing. To have wide understanding on GNSS, Segments and Satellite tracking.

UNITS	COURSE DETAILS
I	Remote Sensing – Definition and types- History of Remote Sensing in India – Remote Sensing Processes – Electromagnetic Spectrum, Atmospheric Window – Plat Forms and its types.
II	Fundamentals of Aerial and Satellite Remote Sensing- Aerial Photography and Scale of Aerial Photographs and its types – types of Satellites.

III	Resolution: Spectral, Spatial, Radiometric and Temporal. Application of Remote Sensing ; Land use/ Land cover/ Urban sprawl Agriculture and environment.
IV	Global Navigation Satellite System: Segments: space segment - GPS Satellite systems – New programmes – IRNSS - Control segment - Satellite tracking.
V	Satellite augmented systems - DGPS - GNSS Applications.
TEXT BOOKS	Siddique M.A.(2006): Introduction to Geographic Information Systems, Sharda Pustak Bhawan, Allahabad. Chandra A.M &S.M.Ghosh, (2006) Remote sensing and Geographical Information System, Alpha Science Int'l limited, New Delhi.
	Panda B.C(2005): Remote sensing principles and applications, Viva books private limited.
	Anji Reddy. M. (2001): Remote sensing and Geographical information system, BS publication, Hyderabad.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To have basic knowledge on basics of Remote sensing

	CO2	To elaborate on the fundamentals and significance of Aerial photographs and satellite types
	CO3	To have the deep knowledge on the types of resolution and marginal information of Aerial photos and satellite images
	CO4	To explore the application of Remote sensing
	CO5	To have wide understanding on GNSS, Segments and Satellite tracking

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography
Part III: CORE PAPER

Semester :VI
Hours : 5Hrs /W (60Hrs P/S)

Sub. Code : **U23DG06**
Credits: 3

TITLE OF THE PAPER:**GEO SPATIAL TECHNIQUES**

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To acquire basic knowledge and Scope of Geoinformatics. To elaborate the sources of Spatial database. To discuss the importance of Software Sources and methods of acquiring Geo data. To elaborate on GIS and Spatial Decision Support. To illustrate the Application of Geo spatial data.

UNITS	COURSE DETAILS
I	Meaning and Scope of Geoinformatics – Science and Technologies involved in producing Maps - Cartography- Remote Sensing- Photogrammetry - Digital Image Processing- Geographical Information System-Global Positioning System- GNSS.
II	Spatial database: Survey of India – NRSC - BHUVAN - NATMO – Geological Survey of India - Census of India –National Informatics Centre -

	Cadastral maps – open street map – foreign sources of data - Physical surveying - GPS and Total station- GPR
III	Software Sources and methods of acquiring geodata - user interfaces - application programs - Operating systems - network computing - Information Technology in Remote Sensing - GIS Applications of IT in Cartography - Applications of IT in Real Time GIS.
IV	Spatial Process : Maps as output – Thematic Maps - non-cartographic outputs – spatial multimedia – GIS outputs delivery mechanism - GIS and Spatial Decision Support - map as a decision tool.
V	Application of Geo spatial data: Rural Development, Geosciences, agriculture, Forestry, Soil Studies, Meteorology, Military, Transport, Environmental studies, Banking and Health Civil Engineering etc.,
TEXT BOOKS	Ian Heywood, Sarah Cornelivs and Steve Carver, An Introduction to Geographical Information System, Pearson Education Pvt .Ltd., New Delhi, 2007. Lillesand M. Thomas and Ralph W.Kiefer, Remote Sensing and Image Interpretation, John Wiley & Sons, New York, 2007.
	LO. C.P., and Albert K.W.Yeung, Concepts and Techniques of Geographic Information Systems, Prentice-Hall of India, New Delhi, 2006.
	Geographic Information Systems and Science. Second Edition. John Wiley, Chichester, 2005.

WEB SOURCE:	
1	www.slideshare.net/parabprathamesh/primary-sec
2	http://youtu.be/zxHP2Qhw5vl
3	http://youtu.be/Se28XHI2_xE

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade

25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To acquire basic knowledge and Scope of Geoinformatics
	CO2	To elaborate the sources of Spatial database
	CO3	To discuss the importance of Software Sources and methods of acquiring Geo data
	CO4	To elaborate on GIS and Spatial Decision Support
	CO5	To illustrate the Application of Geo spatial data.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :VI | Hours : 5Hrs /W (60Hrs P/S)

Sub. Code : **U23DG07** | Credits: 3

TITLE OF THE PAPER:**TRANSPORT GEOGRAPHY**

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To acquire basic knowledge and Scope of Transport Geography. To elaborate the Types of Transport. To discuss the importance of Network Characteristics of transport. To elaborate on Theories related to freight rate structure. To illustrate the Transport system in India.

UNITS	COURSE DETAILS
I	Nature and Scope of Transport Geography - Importance of Transport - Development of Transport Geography – Associated factors - Transport Development - Physical, Economic, Technology.
II	Types of Transport – Railways, Roads, Airways and Waterways,

	Pipelines.
III	Network Characteristics – Topology - Graph Theory - Binary Matrix - Measures Of Connectivity and Accessibility.
IV	Theories related to freight rate structure - Bases of Spatial interaction – Complementarily - Intervening Opportunity and Transferability.
V	Transport system in India - Role of Transport in Regional development In India - Problems and prospects of Role of Transport in Regional development In India - Urban and Rural Transportation Planning and Management.
TEXT BOOKS	Transport and Developing Countries - Hillings, H., Routledge, 1996 Geography of Transportation, Naresh Kumar, Concept Publication, 1991. White H.P. and Senior 1983 'Transport Geography', Longman, London.
	Transport for the Space Economy: A Geographical Study -Hay, A, Macmillan, 1973
	Transportation Geography: Comments and Readings - Eliot Hurst, M.E.,1971
WEB SOURCE:	
1	https://transportgeography.org/?page_id=40,
2	https://www.e-education.psu.edu/geog597i_02/node/814

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	**75**	**100**	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	**CO1**	To acquire basic knowledge and Scope of Transport Geography.
	CO2	To elaborate the Types of Transport.
	CO3	To discuss the importance of Network Characteristics of transport.
	CO4	To elaborate on Theories related to freight rate structure.
	CO5	To illustrate the Transport system in India.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

Programme :B.Sc Geography | Part III: CORE PAPER

Semester :VI | Hours : 5Hrs /W (60Hrs P/S)

Sub. Code : **U23DG08** | Credits: 3

TITLE OF THE PAPER:**REGIONAL PLANNING AND DEVELOPMENT**

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	

LEARNING OBJECTIVES	To acquire the conceptual and theoretical framework of Region. To Distinguish between the Physical regions, resource regions. To assess the approaches to delineation of different types of regions and their utility in planning. To illustrate the Regional development strategies. To differentiate the Concept of Multi-level planning.

UNITS	COURSE DETAILS
I	Regional concept in geography - conceptual and theoretical framework, merits and limitations for application to regional planning and development -Types of regions: Formal and functional - uniform and nodal - single purpose and composite

	region in the context of planning- regional hierarchy - special purpose regions.
II	Physical regions, resource regions, regional divisions according to variations in levels of socio-economic development- special purpose regions – river valley regions, metropolitan regions, problem regions – hilly regions, tribal regions, regions of drought and floods.
III	Approaches to delineation of different types of regions and their utility in planning. Planning process – sectoral, temporal and spatial dimensions- short-term and long term perspectives of planning. Planning for a region's development and multi-regional planning in a national context.
IV	Regional development strategies – concentration vs. dispersal, case studies for plans of developed and developing countries, Regional plans of India.
V	Concept of Multi-level planning- decentralised planning- peoples participation in the planning process- Panchayati Raj system- role and relationship of Panchayati Raj Institutions (Village, Block and District)/ Regional development in India- Problems and prospects.
TEXT BOOKS	Bhat, L.S. et al. Micro-Level Planning: A Case Study of Karnal Area, Haryana. K.B. Publications, New Delhi, 1976. Abler, R., et al. Spatial Organization: The Geographer's View of the World. Prentice Hall, Englewood Cliffs, N.J., 1971.
	Chorley, R.J. and Hagget, P. Models in Geography, Methuen, London, 1967.
	Christaller, W. Central Places in Southern Germany. Translated by C.W.Baskin, Prentice Hall, Englewood Cliffs, New Jersey, 1966.

WEB SOURCE:	
1	https://en.wikipedia.org/wiki/Regional_planning
2	https://en.wikipedia.org/wiki/regionalism_(international_relation)
3.	www.tn.gov.in/tcp/activities.htm

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester	Examination Total	Grade
25	75	100	

COURSE OUTCOMES:

At the end of the course, the student will be able to:

COURSE OUTCOMES	CO1	To acquire the conceptual and theoretical framework of Region.
	CO2	To Distinguish between the Physical regions, resource regions.
	CO3	To assess the approaches to delineation of different types of regions and their utility in planning.
	CO4	To illustrate the Regional development strategies.
	CO5	To differentiate the Concept of Multi-level planning.

MAPPING WITH PROGRAM OUT COMES:

Map course out comes(CO)for each course with program outcomes (PO) in the 3-point scale of STRONG (3), MEDIUM (2) and LOW (1).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10

CO1	S	M	L	L			L	L	L	L
CO2	S	M	L	L			L	L	L	L
CO3	S	M	L	M	M	L	L	L	L	L
CO4	S	M	M	M	M	L	L	L	L	L
CO5	S	M	M	M	L	L	L	M	L	L

EXTENSION ACTIVITY

Programme :B.Sc Geography

Semester :VI

Sub. Code :

ATTENDANCE : 50 MARKS

PARTICIPATION: 25 MARKS

REPORT: 25 MARKS

HOURS: 15 hrs

CREDITS: 1

Relevant to Global need		Employability Oriented		Addresses Professional Ethics	✔
Relevant to National need	✔	Entrepreneurship Oriented		Addresses Gender Sensitization	
Relevant to Regional need	✔	Skill Development Oriented		Addresses Environment and Sustainability	✔
Relevant to Local need	✔			Addresses Human Values	